CLAIMS

1. A method for generating motion vectors, comprising:

determining a set of motion vectors that describes motion between the first and

5   second images; and

changing the set of motion vectors by selecting one or more portions of the image and modifying the vectors corresponding to the selected one or more portions.

2. The method of claim 1, further comprising performing image processing using the

10   changed set of motion vectors.

3. The method of claim 1, wherein changing the set of motion vectors comprises:

identifying a foreground region and a background region in the first and second images;

15   performing tracking on at least one of the foreground region and the background region to determine a motion model for the tracked region; and

changing the set of motion vectors corresponding to the tracked region according to the motion model for the tracked region.

20   4. The method of claim 1, further comprising:

identifying a region in the first and second images; and

defining a combination map that limits how the vector map is applied to the identified region to transform a pixel from the input image to the output image.

25   5. The method of claim 1, wherein changing the set of motion vectors comprises:

receiving an indication of a user specified transform between the first and second images;

computing vectors using the user specified transform and corresponding in time and in resolution with the motion vectors defined by motion estimation; and

30   combining the computed vectors with the set of motion vectors.

6. The method of claim 5, wherein the user specified transform is defined by at least one point in a first image and at least one corresponding point in the second image, and further comprising:

determining a transform for warping the first image to the second image that

5   maintains correspondence between the at least one point in the first image and the at least one point in the second image; and

wherein computing vectors comprises determining, for each pixel, a set of transform vectors that describe the spatial transform of the region of the first image to the corresponding region in the second image.

10

7. The method of claim 6, wherein the user specified transform is defined by at least one line.

8. The method of claim 6, wherein the user specified transform is defined by at least one

15   region.

9. The method of claim 1, wherein changing the set of motion vectors comprises:

displaying to the user a color image defined by the set of motion vectors;

allowing the user to modify the color image defined by the set of motion vectors;

20   and

changing the set of motion vectors according to the modified color image.

10. An apparatus for generating motion vectors, comprising:

means for determining a set of motion vectors that describes motion between the

25   first and second images; and

means for changing the set of motion vectors by selecting one or more regions in the image and modifying the vectors corresponding to the selected one or more regions.

11. The apparatus of claim 10, further comprising means for performing image

30   processing using the changed set of motion vectors.

12. The apparatus of claim 10, wherein the means for changing the set of motion vectors comprises:

 means for identifying a foreground region and a background region in the first and second images;

5 means for performing tracking on at least one of the foreground region and the background region to determine a motion model for the tracked region; and

 means for changing the set of motion vectors corresponding to the tracked region according to the motion model for the tracked region.

10 13. The apparatus of claim 10, wherein the means for changing the set of motion vectors comprisies:

 means for identifying a foreground region and a background region in the first and second images; and

 means for defining a combination map that limits how the vector map is applied

15 to transform a pixel from the input image to the output image.

14. The apparatus of claim 10, wherein the means for changing the set of motion vectors comprises:

 means for receiving an indication of a user specified transform between the first

20 and second images;

 means for computing vectors using the user specified transform and corresponding in time and in resolution with the motion vectors defined by motion estimation; and

 means for combining the computed vectors with the set of motion vectors.

25

15. The apparatus of claim 10, wherein the user specified transform is defined by at least one point in a first image and a corresponding at least one point in the second image, and further comprising:

 means for determining a transform for warping the first image to the second

30 image that maintains correspondence between the at least one point in the first image and the at least one point in the second image; and

wherein the means for computing vectors comprises means for determining, for each pixel, a set of transform vectors that describe the spatial transform of the region of the first image to the corresponding region in the second image.

5 16. The apparatus of claim 15, wherein the user specified transform is defined by at least one line.

17. The apparatus of claim 15, wherein the user specified transform is defined by at least one region.

10

18. The apparatus of claim 10, wherein changing the set of motion vectors comprises:

displaying to the user a color image defined by the set of motion vectors;

allowing the user to modify the color image defined by the set of motion vectors; and

15   changing the set of motion vectors according to the modified color image.